TSUKKER, G. Ye.

SVERDLOV, M.I., kand. tekhn. nauk; DAGELAYSKAYA, N.A., inzh.; ROMANOVSKIY, V.P., dots., kand. tekhn. nauk; TSUKKER, G.Ye., inzh., red.; LEYKIN, T.L., red. izd-va; SOKOLOVA, L.V., tekhn. red.

[Stamping on automatic presses (diverse operation presses)] Shtampovka na pressakh-avtomatakh (mnogooperatsionnye pressy). Pod obshchei red. V.P. Romanovskogo. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1955. 64 p. (Bibliotechka shtampovshchika, no.9). (MIRA 11:7)

(Extrusion process)

KRASNOPEYEVA, L.F.; TSUKKER, I.I.

Occupational dermatoses in workers in a mica factory. Vest.derm. i ven. 35 no.5:47-49 '62. (MIRA 15:5)

1. Iz kafedry gospital'noy terapii (zav. - dotsent K.R. Sedov) Irkutskogo meditsinskogo instituta (dir. - prof. A.I. Nikitin) i Kirovskogo rayonnogo kozhno-venerologicheskogo dispansera (glavnyy vrach F.Ye. Vulykh).
(OCCUPATIONAL DISEASES) (MICA--TOXICOLOGY)

TSUKKER, M. S.

Tsukker, M. S. A laminar incompressible jet streaming from a radial diffusor along a wall. Prikl. Mat. Meh. 18, 757–761 (1954). (Russian) 12

I-F/W

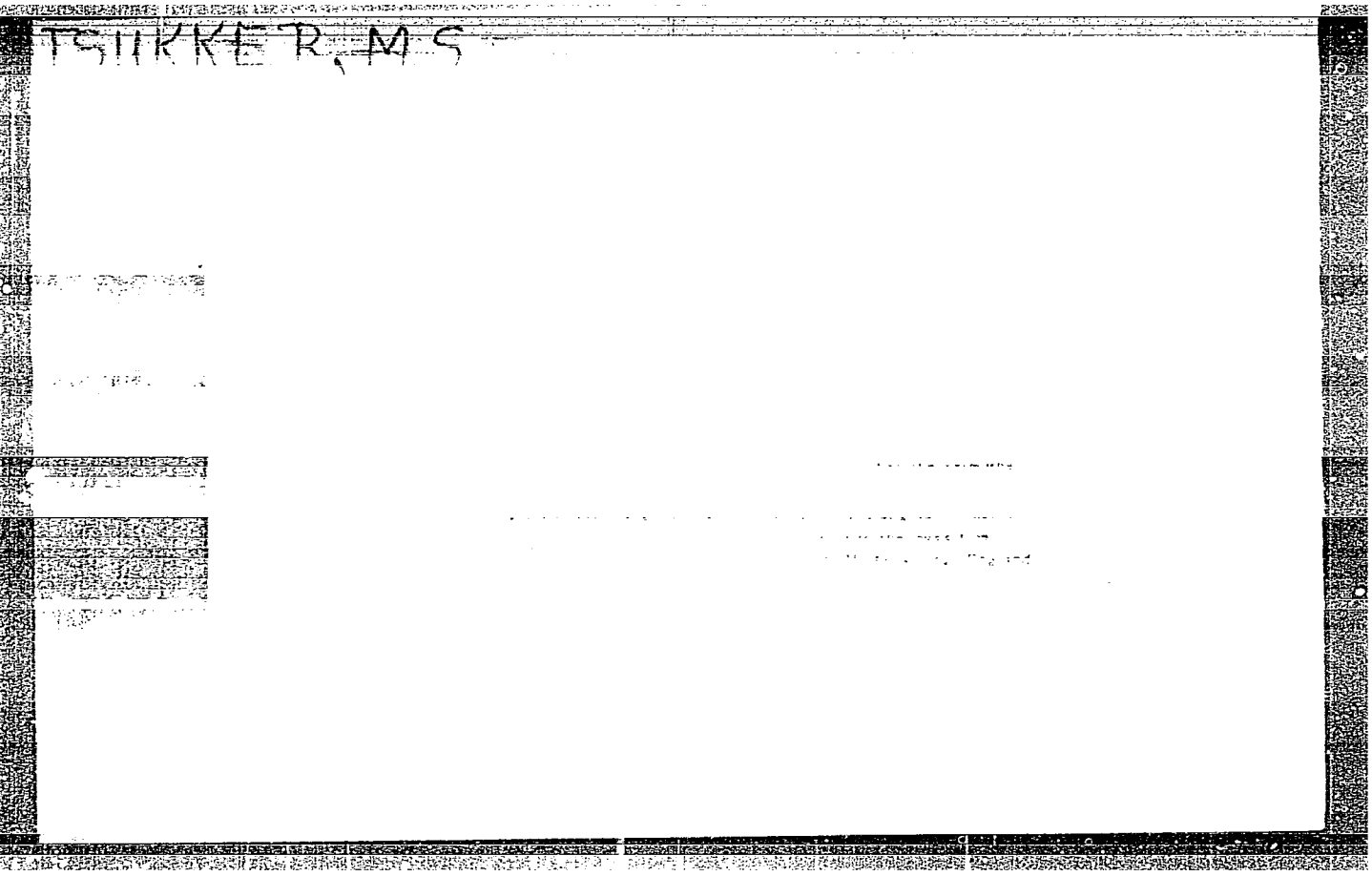
L'A. forme le syutème aux dérivées partielles que vérifient les vitesses dans un jet liquide laminaire, tordu sur lui-même, s'échappant d'un orifice circulaire; il est tenu compte de l'effet de la paroi de l'appareil. En particulier, l'A. obtient les relations intégrales que doit satisfaire le jet pour tenir compte de la couche limite. Le système différentiel obtenu est résolu en première approximation. Il faut souligner l'intérêt physique de l'étude qui se rapporte au fonctionnement, en régime permanent, d'un diffuseur radial.

J. Kravtchenko (Grenoble).

TSUKKER, M. S.

"A Laminar Incompressible Jet Streaming from a Radial Diffuser along a Wall"
Prikladnaya Matematika i Mekhanika, 1954, v. 18, no. 6, p. 757-761, diagrs.
3 Russian refs.

Summary - 519851



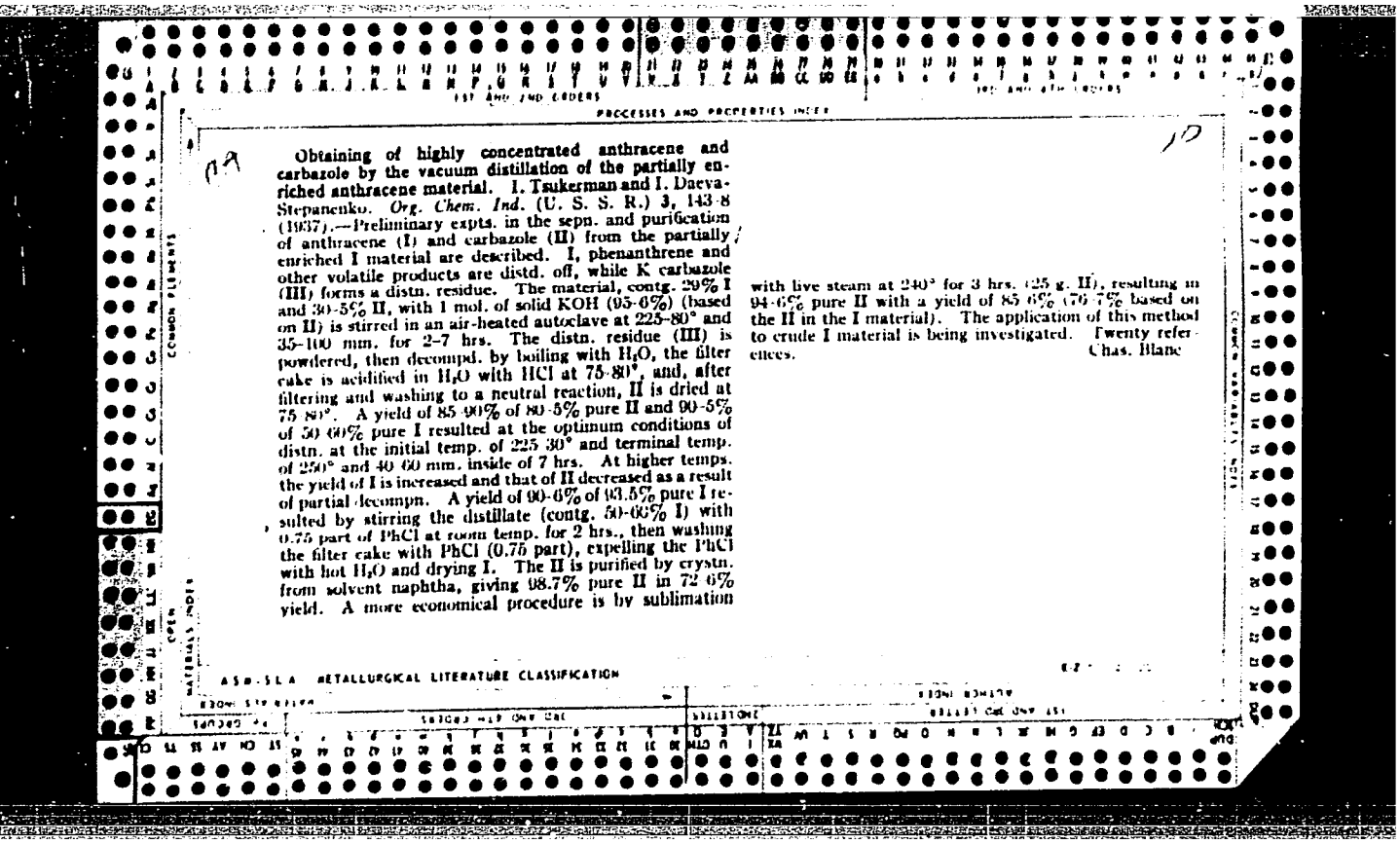
TSUKKER, M.S. (Leningrad)

Vortical flow moving in a space filled with the same fluid.
Prikl.mat.i mekh. 19 no.4:500-503 Jl-Ag '55. (MLRA 9:1)
(Fluid dynamics)

TSUKKER, M.S.

TSUKKER, M.S. (Leningrad)

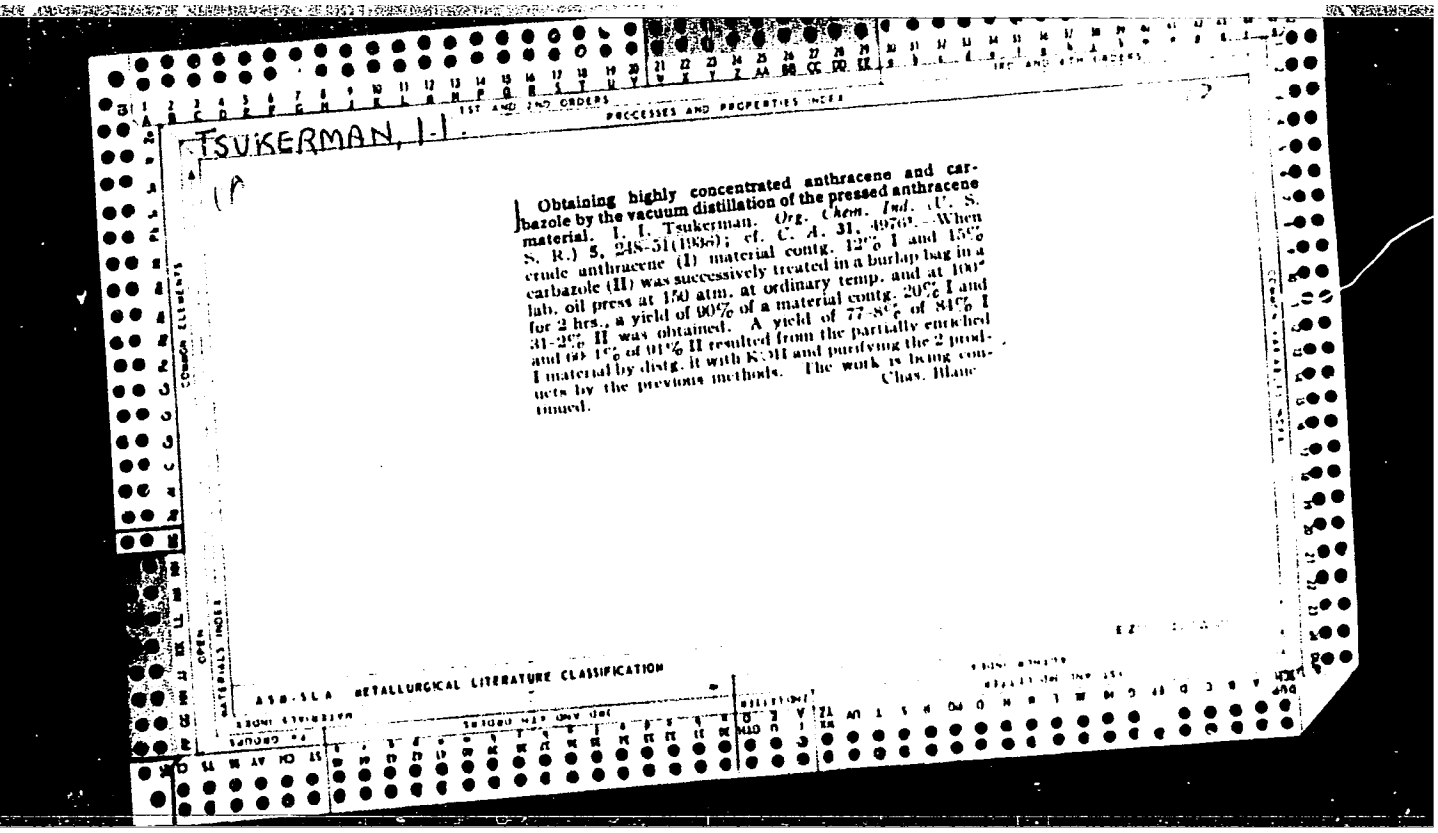
A laminar incompressible jet pulsating from a radial diffusor along the wall. Prikl. mat. i mekh. 18 no.6:757-761 N-D '54. (MLRA 8:3)
(Jets)



PROCESSES AND PROPERTIES INDEX

Obtaining of highly concentrated anthracene and carbazole by the vacuum distillation of the partially enriched anthracene material. I. Tsukerman and I. Daeva-Stepanenko. *Org. Chem. Ind.* (U. S. S. R.) 3, 143-8 (1937).—Preliminary expts. in the sepn. and purification of anthracene (I) and carbazole (II) from the partially enriched I material are described. I, phenanthrene and other volatile products are distd. off, while K carbazole (III) forms a distn. residue. The material, contg. 29% I and 30-5% II, with 1 mol. of solid KOH (95-6%) (based on II) is stirred in an air-heated autoclave at 225-80° and 35-100 mm. for 2-7 hrs. The distn. residue (III) is powdered, then decompd. by boiling with H_2O, the filter cake is acidified in H_2O with HCl at 75-80°, and, after filtering and washing to a neutral reaction, II is dried at 75-80°. A yield of 85-90% of 80-5% pure II and 90-5% of 50-60% pure I resulted at the optimum conditions of distn. at the initial temp. of 225-30° and terminal temp. of 250° and 40-60 mm. inside of 7 hrs. At higher temps. the yield of I is increased and that of II decreased as a result of partial decompn. A yield of 90-6% of 93.5% pure I resulted by stirring the distillate (contg. 50-60% I) with 0.75 part of PhCl at room temp. for 2 hrs., then washing the filter cake with PhCl (0.75 part), expelling the PhCl with hot H_2O and drying I. The II is purified by crystn. from solvent naphtha, giving 98.7% pure II in 72-6% yield. A more economical procedure is by sublimation with live steam at 240° for 3 hrs. (25 g. II), resulting in 94-6% pure II with a yield of 85-6% (76-7% based on the II in the I material). The application of this method to crude I material is being investigated. Twenty references. Chas. Blanc

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



TSUKERMAN, I.I.

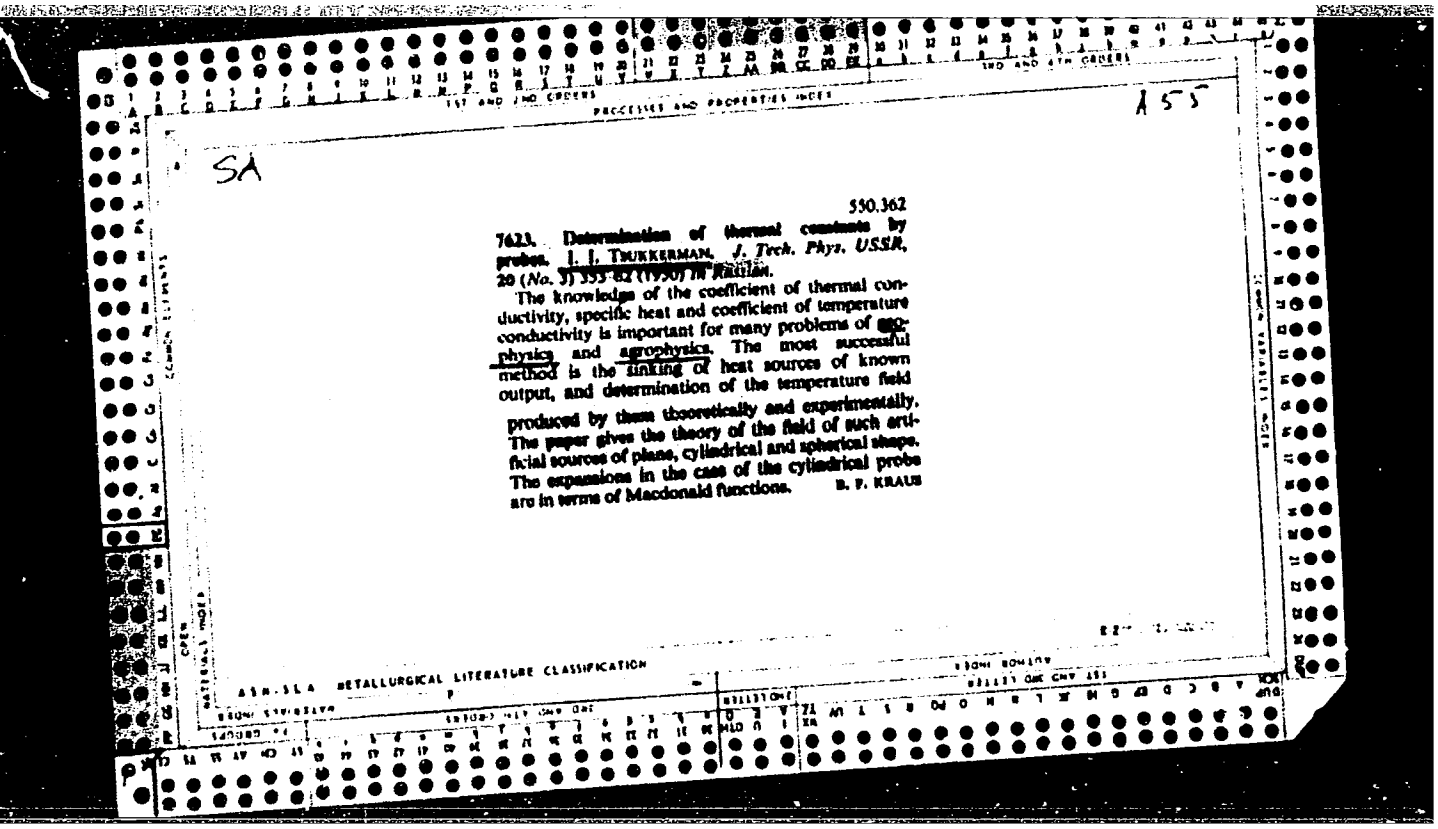
Obtaining highly concentrated anthracene and carbazole by the vacuum distillation of the pressed anthracene material. I. I. Tsukerman. *Org. Chem. Ind.* (U. S. S. R.) 5, 248-51(1936); cf. C. A. 31, 4976. When crude anthracene (I) material contg. 12% I and 15% carbazole (II) was successively treated in a burlap bag in a lab. oil press at 150 atm. at ordinary temp. and at 100° for 2 hrs., a yield of 90% of a material contg. 20% I and 31-2% II was obtained. A yield of 77-8% of 84% I and 16% of 91% II resulted from the partially enriched I material by distg. it with KOH and purifying the 2 products by the previous methods. The work is being continued.

Chas. Blanc

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

TSUKKERMAN, I. I.

"Investigation of the Warm Constants (Preparer's Note: probably specific heat) of the Soil According to the Coolness of Probes," Meteorology and Hydrology, Vol. 2, 1949.



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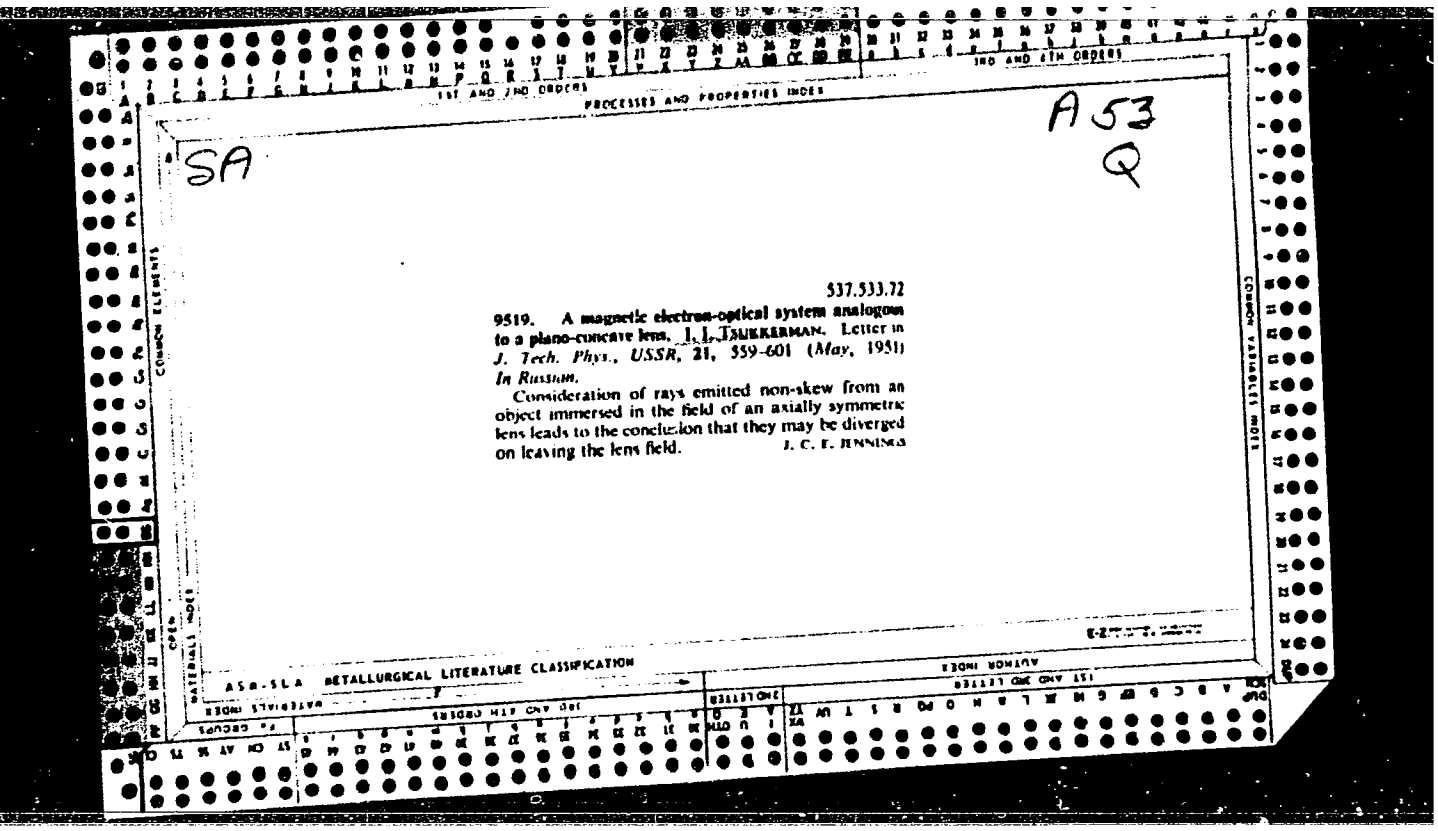
550.362

7623. **Determination of thermal constants by probes.** I. I. TSUKKERMAN. *J. Tech. Phys. USSR*, 20 (*No.* 3) 353–62 (1950) In Russian.

The knowledge of the coefficient of thermal conductivity, specific heat and coefficient of temperature conductivity is important for many problems of geophysics and agrophysics. The most successful method is the sinking of heat sources of known output, and determination of the temperature field produced by them theoretically and experimentally. The paper gives the theory of the field of such artificial sources of plane, cylindrical and spherical shape. The expansions in the case of the cylindrical probe are in terms of Macdonald functions. B. P. KRAUS

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



537.533.72

9519. A magnetic electron-optical system analogous to a plano-concave lens. I. I. TSUKERMAN. Letter in *J. Tech. Phys., USSR*, **21**, 559-601 (*May*, 1951) *In Russian.*

Consideration of rays emitted non-skew from an object immersed in the field of an axially symmetric lens leads to the conclusion that they may be diverged on leaving the lens field. J. C. F. JENNINGS

TSUKKERMAN, I. I.

USSR/Physics - Electron Optics Nov 52

"A 'Nonoptical' Theory of Focusing in Magnetic Fields of Rotation," I. I. Tsukkerman

"Zhur Tekh Fiz" Vol 22, No 11, pp 1843-1847

Discusses the theoretical difficulties of applying ordinary optics of light to electron optics. States that the difficulty lies in the anisotropy of magnetic fields. Cites related work of D. L. Kaminskiy and V. M. Kel'man ("Zhur Tekh Fiz," Vol 22, p 703, 1952).

236T102

TSUKKERMAN I. I.

USSR.

621.383 : 621.397.6

2521. On magnetic focusing in [television] camera tubes having image transfer. I. I. TSUKKERMAN. *Zh. tekh. Fiz.*, 23, *No.* 7, 1228–38 (1953). In Russian.

The photocathode is immersed in a magnetic field, which may, for example, be approximately represented by a "bell" field, centred on the cathode and decreasing to a negligible value at the target. By considering as principal rays those which are emitted non-skew, it is shown that the electron-optical image is enlarged by the "diverging" action of the magnetic lens. The determination of the magnetic field required for single or nth order multiple focusing is treated as an eigen-value problem and solved approximately for simple cases. Image rotation is also discussed, but aberrations are not. J. C. E. JENNINGS.

TSUKERMAN, I. I.

Dissertation: "Some Problems of the Theory of Magnetic Focusing." Cand Phys-Math Sci, Leningrad Polytechnic Inst, Leningrad, 1954. (Referativnyy Zhurnal-Fizika, Moscow, Jun 54)

SO: SUM 318, 23 Dec 1954

TSUKKERMAN, I. I.

USSR/Physics - Electron Optics FD-600

Card 1/1 : Pub 153-12/22

Author : Tsukkerm ., I. I.

Title : Theory of Electron Optic Systems with an arbitrarily curved axis

Periodical : Zhur. tekh. fiz., 24, 258-273, Feb 1954

Abstract : Analyzes some theoretical problems of electron optics with arbitrarily curved axis on the basis of the general theory of the focusing effect of static electromagnetic fields, established by G. A. Grinberg (DAN, 37, 5-6, 197, No 9, 295 (1942); 38, No 2-3, 89 (1943); ZhTF, 13, 361, (1943); Izbrannyye voprosy matematicheskoy teorii electricheskikh i magnitnykh yavleniy, (Selected problems in the math. theory of electric and magnetic phenomena) 1948). Solves the problem of finding fields that form focusing systems with curved axis satisfying specified properties. 15 references, includ 5 foreign.

Institution :

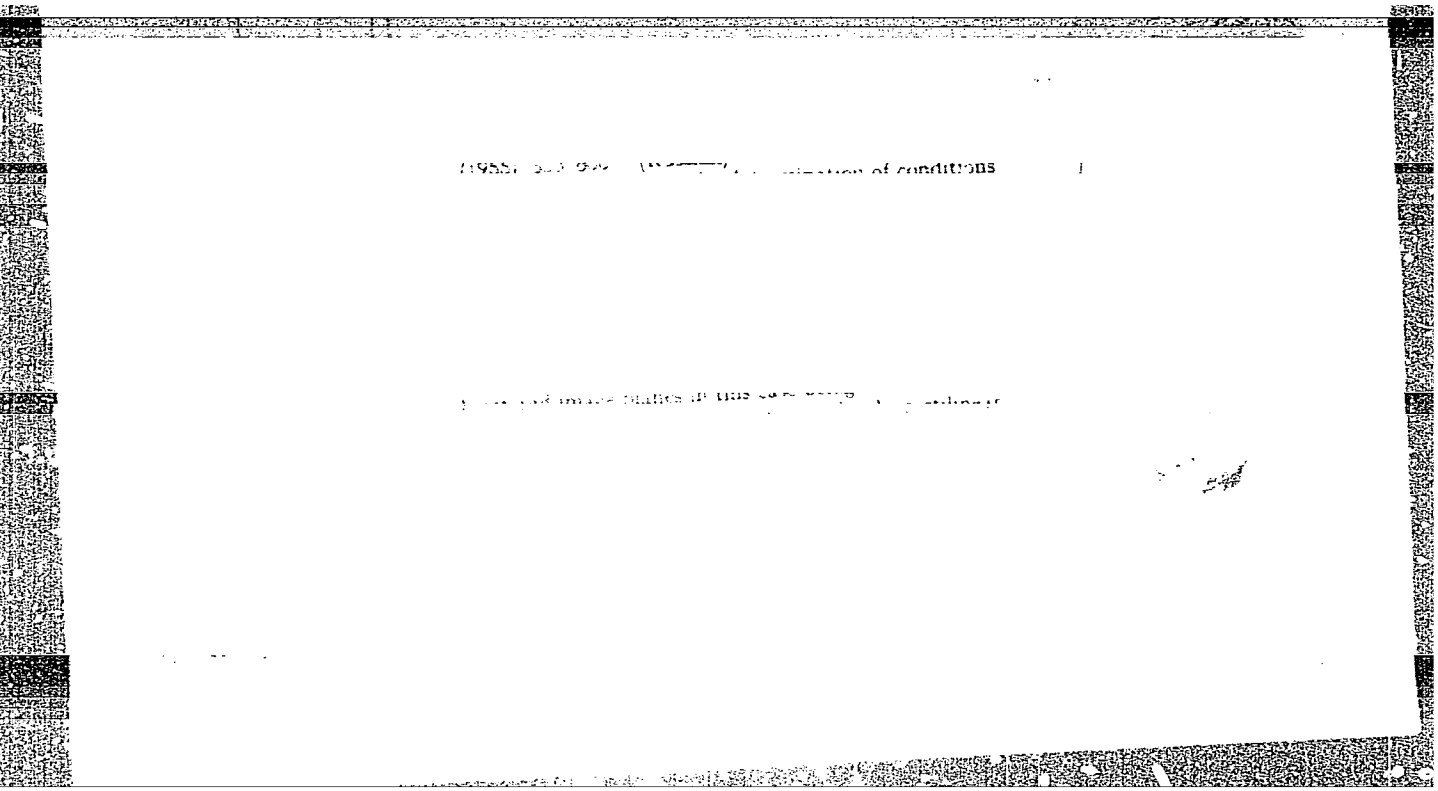
Submitted : June 6, 1953

TSUKKERMAN, I. I.

2

Cukkerman, I. I. On electron-optical systems with a rectilinear axis not having rotational symmetry. Z. Tehn. Fiz. 24, 2261–2263 (1954). (Russian)

Electron-optical systems with a rectilinear axis are defined as systems of static electric and magnetic fields, such that one of the trajectories of an appropriately directed beam of charged particles is a straight line, which is the axis of the system. The equations of motion for paraxial electrons in such a system are obtained as special cases of Grinberg's general equations [Selected topics of the mathematical theory of electric and magnetic phenomena, Izdat. Akad. Nauk SSSR, Moscow-Leningrad, 1948, pp. 507–535]. The condition is stated which has to be imposed on the components of the field in order for the system to have a rectilinear axis. A further condition is derived which has to be satisfied in order that a beam radiating from a point on the axis be brought again to a focus. A number of examples are discussed where these conditions are satisfied. *J. E. Rosenthal.*



TSUKKERMAN, I.I.

Magnetic electron optical systems with variable magnification without image inversion. Zhur.tekh.fiz. 25 no.5:950-952 My '55. (MLRA 8:7)
(Electron optics)

TSUKERMAN, I. I.,

I. I. Tsukerman, in a paper "On the Range Resolution of an Image Orthicon related the basic factors, limiting the range resolution of the transmitting television tube of the image orthican type. Here the tube id considered as a multistage four-pole unit, and the characteristics of each stage are calculated. Improvement possibilities were considered with regard to a better vision of details at the expense of a narrowed field of view of the television camera, achieved by an opticelectronic method.

Presented at the Eleventh Scientific and Technical Session of the Leningrad Section VTORiE (Scientific and Technical Society for Radio and Electricity) imeni A. S. Popov, dedicated to the celebration of Radio Day, Leningrad, 16-24 Apr 56.

(Radiotekhnika, No. 7, 1956)

TSUKKERMAN, I. I.

AKSENOVA, L.D., inzhener; TSUKKERMAN, I.I., kandidat tekhnicheskikh nauk.

Electron optic scaling in pickup tubes. Tekh.televid no.6:1-17 '56. (MLRA 10:3)

(Television--Transmitters and transmission)

X

TSUKKERMAN, I.I

H-3

Category : USSR/Electronics - Electronic Optics

Abs Jour : Ref Zhur - Fizika, No 2, 1957, No 4285

Author : Tsukkerman, I.I.
Title : Remarks Concerning the Article by Ye.I. Uchevatkin.

Orig Pub : Tekhn. televideniya, 1956, vyp. 19, 57-58

Abstract : An error is noted in the article by Ye.I. Uchevatkin (see Referat Zh. Fizika, 1956, 17213) resulting from the fact that the author, formulating the problem of determining the field of the space charge of a focused electron beam, actually solves a single-dimensional problem for the case of plane-parallel infinite electrodes.

Card : 1/1

TSUKERMAN, I.I.

CARD 1 / 2 PA - 1401

SUBJECT USSR / PHYSICS
AUTHOR BONSTEDT,B.E., DMITRIJEWA,T.G., ZUCKERMAN,I.I.
TITLE The Computation of the Reactivity of the Electron Optic Transformer with Homogeneous Fields.
PERIODICAL Žurn.techn.fis, 26, fasc.9, 1966-1968 (1956)
Issued: 10 / 1956 reviewed: 10 / 1956

De VORE and WENDT computed the distribution of the density of the current in the electron image. This computation was made for a plane in which the GAUSS image is produced by electrons with the initial energy of zero. In reality, however, the accuracy of the image obtained in this manner may be far from the optimum. The reactivity of the electron optic system of the transformer will in any case be higher if in the screen plane the paraxial electron bundles are not focussed with the initial zero energies but with the most probable energies. In this connection an error was committed in the course of the computations carried out by De VORE and WENDT, and it is the purpose of the present work to point out the essential importance of this error. An approximated computation of the distribution of current density in that plane was made in which the paraxial photo electron bundle was focussed with the most probable initial energy. In the course of computation the same distribution functions with respect to the angles and initial energies were assumed to exist as was the case in the works by De VORE and WENDT. In the case which was examined by De VORE and WENDT, i.e. with $\varepsilon = 0$ (ε is the initial energy), it is possible to obtain an analytical expression and to carry out the further work of computation analytically. In the case of $\varepsilon_o \neq 0$ computation cannot be continued analytically, and therefore it was

carried out as an approximated numerical computation. For the purpose of comparing results with those obtained by de VORE and WENDT the so-called modulation coefficient of current density was computed and the results obtained were plotted as curves. The modulation coefficient M was expressed by the functions of the dimensionless parameter $\alpha\delta$, where $\alpha=\frac{H\sqrt{V}}{21.2\,\varepsilon_o}$. H is the voltage of the magnetic field in oersted. V is the difference of the potentials of the screen and the photocathode in volts; ε is measured in volts. The same drawing also showed the results obtained by De VORE and WENDT which were also plotted as curves, and it was found that the error occurs with particular distinctness in the case of small values of $\alpha\delta$, as e.g. when small details of the image are being looked at or when errors are relatively insignificant.
The following may serve as a characteristic example: For the dissection of the electron image transmitted by the television tube of the type Superortikon, the parameter $\alpha\delta$ is of the order of magnitude 0,2 for small details corresponding to 600 lines of television dissection. The modulation coefficient M, computed according to the method developed by De VORE and WENDT, will be about 0,04. This is so low a value that the reproduction of such details of an image would be practically impossible. The new computation results in a credible quantity M of the order 0.3 while the value of $\alpha\delta$ is the same.

INSTITUTION:

TSUKKERMAN, I. I.

AUTHOR: TSUKKERMAN, I.I., Regular Member of the Society for Radiotechnology and Electrocommunication. PA - 2818

TITLE: An Electron-Optical Method of Modifying the Scale of a Television Picture. (Elektronno-opticheskiy metod izmeneniya masshtaba televizionnogo izobrazheniya, Russian)

PERIODICAL: Radiotekhnika, 1957, Vol 12, Nr 3, pp 4-9 (U.S.S.R.)

Received: 5 / 1957 Reviewed: 7 / 1957

ABSTRACT: This paper was read at the All-Union Scientific Congress of the above Society on May 10th 1956. The electron-optical method is here applied in the orthicon (an iconoscope with greater sensitivity) with image transmission. For this purpose the transmission section is transformed into a magnetic electron-optical system with variable enlargement without rotation of the electron image. Such systems are constructed and designed in such a manner that the electric and the magnetic fields are newly distributed in such a manner, that the basic (axial) trajectories of the electron bundles and the lines of force of the magnetic field coincide. The computation of such a system is discussed. In order to enlarge the scale an additional frontal coil is fitted near the photocathode, by which the voltage of the magnetic field on the photocathode is increased. In order to warrant a uniform modification of the scale the voltages and currents of the front coil must be changed simultaneously. The advantages in the reproduction of small details with scale

Card 1/2

PA - 2818

An Electron-Optical Method of Modifying the Scale of a Television Picture.

modifications are shown. This method can be used in all cases in which other methods are either not desirable or cannot be applied, but it may also be used in combination with another method. The aberration of such systems in which the basic trajectories coincide with the lines of force of the magnetic field is relatively low. (5 Illustrations and 3 Citations from Slav Publications).

ASSOCIATION: Not given
PRESENTED BY:
SUBMITTED: 16.6.1956
AVAILABLE: Library of Congress

Card 2/2

6(6) PHASE I BOOK EXPLOITATION SOV/1343

Taukkerman, Il'ya Ioannovich

Elektronnaya optika v televidenii (Electron Optics in Television) Moscow, Gosenergoizdat, 1958. 245 p. 14,600 copies printed.

Ed.: Bonshtedt, B.E.; Tech. Ed.: Soboleva, Ye.M.

PURPOSE: The book is intended for scientific and engineering personnel working in the field of television and vacuum-tube engineering. It may also be used by undergraduate and graduate students.

COVERAGE: The author describes fundamentals of electron optics as applied to modern television and vacuum-tube devices. He discusses the operation of electron guns, focusing and deflecting devices, and devices for forming electron images on the targets of transmitting tubes. He also discusses the theory and operation of standard television devices such as the orthicon and the iconoscope. The material of the book is based on lectures on electron optics delivered by the author to graduate students and

Card 1/5

engineers of the All-Union Scientific Research Institute of Television. The author thanks N.V. Dunayevskaya for preparing the illustrations and M.M. Bredov and A.M. Khalfin for reviewing the text. He also thanks B.E. Bonshtedt for editing the manuscript. There are 170 references, of which 72 are Soviet (including 6 translations), 83 English, 12 German, and 3 French.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress

JP/atr
4-2-59

SOV/57-58-8-30/37

AUTHOR: Tsukkerman, I.I.

TITLE: Thin Quadripolar Magnetic Lens (Korotkaya chetyrekhpolyusnaya magnitnaya linza)

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1958, Nr 8, pp 1809 - 1812 (USSR)

ABSTRACT: In this paper an understanding is sought of the focusing properties of such a system consisting of four magnetic poles arranged in a symmetrical manner. Equations for the paraxial trajectory, formulae for the focal length of the thin lens, for the length of the line focus and for the lateral magnification are given. A few particular features in the performance of the quadripolar magnetic lenses in cathode ray tubes are demonstrated. These lenses can also be used in combination with ordinary axially symmetric lenses. By a variation of the amperage in both lenses it is possible to modify the length of the line focus within wide limits. A quadripolar magnetic lens offers a number of advantages as compared to cylindrical magnetic lenses (Refs 3,4), in particular the independence of the orientation of the line focus from the adjustment of the focal length. There are

Card 1/2

Thin Quadripolar Magnetic Lens

SOV/57-58-8-30/37

2 figures and 4 references, 3 of which are Soviet.

SUBMITTED: September 23, 1957

Card 2/2

AUTHOR: Tsukkerman, I.I., Member of the Society 108-13-4-10/12

TITLE: On the Transmission of the Coordinates of Elements of a Television Picture (O peredache koordinat elementov televizionnogo izobrazheniya)

PERIODICAL: Radiotekhnika, 1958, Vol. 13, Nr 4, pp. 77-79 (USSR)

ABSTRACT: The number of superfluous television communications can, in some cases, be reduced, viz. if the signals of brightness and of the coordinates of only "new" elements of a decorrelated picture are transmitted. It is shown that in dependence on the statistics of the television picture it may be to the purpose immediately to transmit either the two coordinates of the elements or only the line-coordinate and the signal of the end of the line. There are 7 references, 4 of which are Soviet.

SUBMITTED: August 19, 1957

AVAILABLE: Library of Congress

Card 1/1 1. Video signals---Transmission

TSUKKERMAN, I. I.

А. Я. Корнеев

Анализ схем амплитудной селекции

9 июня

(с 18 до 22 часов)

В. И. Ермаков,
О. В. Ежевич-Чешко

Генератор импульсов типа квадратичный синус

В. П. Юрченко,
Ю. Е. Коротков,
Л. В. Афанасьева

Вопросы записи с экранов электронно-лучевых трубок методами фотографии и электрофотографии

А. А. Гольдин,
Д. А. Таранов

Новая система телекинопроекции и видеозаписи

Э. А. Демин,
Л. А. Чечиков,
В. П. Щербаков

Применение ([illegible] с ППГ в полупроводниковой схеме телевизионного синхрогенератора

10 июня

(с 10 до 16 часов)

С. В. Гуревич,
В. И. Сотников

Влияние шумов на разрешающую способность в вещательном телевидении.

М. В. Антонов

Определение продольной разрешающей способности передающих телевизионных трубок по двум точкам апертурной характеристики

М. Г. Маркович,
И. И. Цуккерман

Четырехполюсные магнитные линзы для телевизионных трубок

М. О. Гуревич,
М. И. Цимлис,
В. С. Калабин,
В. И. Морошевский

Контроль качественных показателей телевизионного тракта во время работы телецентра

10 июня

(с 18 до 22 часов)

Report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications im. A. S. Popov (VNORiE), Moscow, 8-12 June. 1959

Tsukkerman I. I

В. С. Цыбаков

О пропускной способности многолучевых каналов связи.

Ю. М. Мартынов

К теории корректирующих кодов.

10 июня

(с 10 до 16 часов)

А. Е. Башаринов,
Б. С. Флейшман,
Г. С. Тыклинский

Метод последовательного анализа в задачах обнаружения сигнала в многоканальных системах

М. Я. Теплов

Элементы теории максимальной помехоустойчивости систем с дискретными сигналами.

Б. Н. Митенко

О помехоустойчивости одного способа определения временного положения импульсов

Г. А. Сергеев

К вопросу об оптимальной обработке экспериментальных данных.

4

10 июня

(с 18 до 22 часов)

Ю. С. Лезин

О пороговых сигналах при когерентном накоплении с экспоненциальной весовой функцией

В. Е. Журавлев

Новые принципы анализа спектров

Г. А. Медведев

Помехоустойчивость приемника с оценкой времени восстановления. Случай простейшего потока мешающих сигналов.

Н. Н. Цуккерман

О помехоустойчивости оптимального одного метода передачи телеграфных сообщений

11 июня

(с 10 до 16 часов)

А. Е. Башаринов

Пороговая вероятность обнаружения импульсного пакета переменной длительности

Л. Н. Фалинов

Идеальное радиоприемное устройство дискретных сигналов

5

report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications im. A. S. Popov (VNIRE), Moscow, 8-12 June. 1959

GLEZER, V.D.; TSUKKERMAN, I.I.

Resolving power of the eye from the standpoint of the information theory [with summary in English]. Biofizika 4 no.1:55-63 Ja '59. (MIRA 12:1)

1. Institut fiziologii im. I.P. Pavlova AN SSSR, Leningrad.
(VISION, physiol.
resolution capacity of eye in information theory (Rus))

GLEZER, V.D.; TSUKKERMAN, I.I.

Doubling of relation channels in the visual analysor. Biofizika 4 no.5:620-621 '59. (MIRA 14:6)
(VISION)

84563

S/057/60/030/011/008/009
B006/B054

9.3140

AUTHORS: Markovich, M. G. and Tsukkerman, I. I.

TITLE: Spherical Aberration of Magnetic Four-pole Lenses

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1960, Vol. 30, No. 11, pp. 1362-1368

TEXT: First, the authors discuss the applications of magnetic four-pole lenses and their aberrations. It was the object of the present work to study the aberration occurring in the focusing of a broad beam with a short magnetic four-pole lens. The beam is assumed to originate from some point on the axis. In one direction, the aberration leads to a broadening of the line focus, in the other to a change in its length. These two forms are called transverse and longitudinal spherical aberrations in the present paper. While the spherical aberration of lenses of rotational symmetry has only one sign, the sign of spherical aberration may change in magnetic four-pole lenses. Making use of this fact, magnetic four-pole lenses may be employed to correct spherical aberrations. The cross section of the present four-pole is shown in Fig. 1. When the magnetic field is

Card 1/3

84563

Spherical Aberration of Magnetic Four-pole Lenses

S/057/60/030/011/008/009
B006/B054

symmetrical with respect to two planes which form an angle of 45° with the coordinate planes on either side, the four-pole lens is called symmetrical; in the other case, it is called asymmetrical. Spherical aberration is calculated by the method of trajectories which is described in the first part of the paper . Part 2 deals with transverse, and Part 3 with longitudinal spherical aberration. It is shown that the aberration of a "symmetrical" four-pole lens has always the same sign as lenses of rotational symmetry. The conditions for the change in sign of spherical aberrations of "asymmetrical" four-pole lenses are discussed. In the last part, the authors discuss the experimental verification of the change in sign of spherical aberration. A cathode-ray tube having a toroidal four-pole lens with a tapped coil (Fig. 3) and a diaphragm with two pairs of narrow slits are used for this purpose. The measurements are described, and some values are compiled in a table. There are 6 figures, 1 table, and 3 references: 2 Soviet and 1 US.

SUBMITTED: April 7, 1960

Card 2/3

84563

S/057/60/030/011/008/009
B006/B054

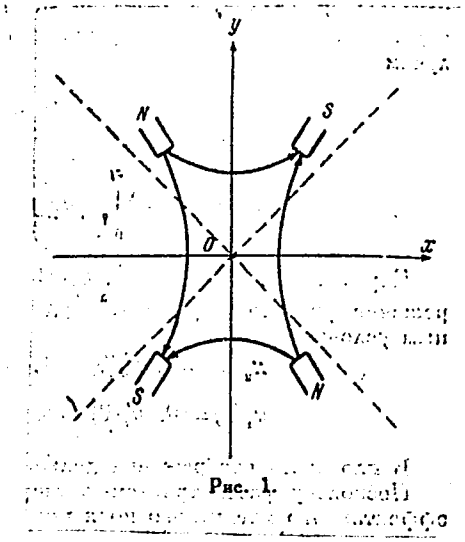


Рис. 1.

Card 3/3

GLEZER, Vadim Davydovich; TSUKKERMAN, Il'ya Ioannovich; LEBEDEV, D.S., otv. red.; RAZUMOV, S.A., red. izd-va; ARONS, R.A., tekhn. red.

[Information and vision] Informatsiia i zrenie. Moskva, Izd-vo Akad. nauk SSSR, 1961. 181 p. (MIRA 14:10)
(VISION) (INFORMATION THEORY)

89738

27.2000 (1080,1051)
6.9000

S/020/61/136/003/027/027
B016/B052

AUTHORS: Glezer, V. D., Tsukkerman, I. I., and Tsykunova, T. M.

TITLE: The Dependence of the Throughput of Eyesight on Brightness

PERIODICAL: Doklady Akademii nauk SSSR, 1961, Vol. 136, No. 3, p. 720

TEXT: The authors studied the dependence of the throughput of eyesight on brightness. They define this throughput as the maximum information which is conveyed to the brain via eyesight within a certain time unit. Under optimum conditions of visual observation, this throughput attains some dozens of binary information units per second (Ref. 1). In their experiments, the authors followed G. S. Sziklai's methods (Ref. 1) except for brightness variations by neutral filters. The test persons were well trained in identifying eight standard objects (order of magnitude of 2 - 4 angular degrees) contrasting by approximately 80%. These objects were shown to them in random sequence. The throughput was measured as being C=H/T binary units per second, where T denotes the period of time necessary for the correct identification of an object, $H = \log_2 B = 3$

Card 1/3

The Dependence of the Throughput of Eyesight on Brightness

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B016/B052

binary units, i.e. the information conveyed to the brain. Fig. 1 shows the dependence of C on the logarithm of the ratio between the brightness B and initial brightness B_0 (B_0 has an order of magnitude of 100 asb in white light). At lower brightness levels, the throughput increases as the logarithm of brightness increases (Ref. 2). If the brightness in this section is doubled, the throughput is increased by approximately 10 binary units per second. The authors compare the linear dependence of C on $\log_2 B$ with the linear dependence of the visual acuity on $\log_2 B$, and express the assumption that a change in the volume of the optic foramen (Ref. 3) forms the basis for the mechanism of the increase in the throughput in this section. A further increase of brightness (under the given experimental conditions) did not render the identification of objects less accurate.

[Abstracter's note: This is nearly a full translation from the original.]

There are 1 figure and 3 references: 2 Soviet.

Card 2/3

89738

The Dependence of the Throughput of Eyesight on Brightness

S/020/61/136/003/027/027
B016/B052

ASSOCIATION: Institut fiziologii im. I. P. Pavlova Akademii nauk SSSR (Institute of Physiology imeni I. P. Pavlov of the Academy of Sciences USSR)

PRESENTED: July 28, 1960, by V. N. Chernyshevskiy, Academician

SUBMITTED: July 26, 1960

X

Card 3/3

S/057/62/032/005/015/022
B104/B102

9.3140

AUTHOR: Tsukkerman, I. I.

TITLE: The similarity transformations of electron-optical images

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 32, no. 5, 1962, 606-612

TEXT: A study is made of the transformations of electron-optical images in planes in which the images remain similar. To these transformations belong similarity transformations (affine transformations), and simple motions (rotation and translation). Similarity transformations can be simulated by electron-optical methods. It is assumed that the electron-optical refractive index is symmetric with respect to the axial trajectory. The equations of the para-axial trajectories are represented in a form independent of θ, θ being the angle between the principal normal to the image plane and the radius vector of a given point of the image. The scale of the image is altered by changing the magnification of the electron-optical system. An image can be rotated either by changing the torsion of the axial trajectory or by altering the potential of the electric field and the tangential component of the magnetic field at the axis of the

Card 1/2

The similarity transformations...

trajectory. An image can be displaced by changing the curvature and torsion of the axial trajectory. By extensive investigations conditions are established under which any one transformation may be assumed to be independent of others.

SUBMITTED: August 23, 1961

Card 2/2

GLEZER, V.D., kand.biolog.nauk; TSUKKERMAN, I.I., kand.fiz.-matem.nauk (Leningrad)

Image and the visual system. Priroda 51 no.10:14-20 O '62. (MIRA 15:10)

(VISION) (INFORMATION THEORY IN BIOLOGY)

L 10170-63 EWT(1)/BDS/ES(t)-2/ES(w)-2—
AFFTC/ASD/ESD-3/SSD—Pab-4—IJP(C)
ACCESSION NR: AP3000001 S/0057/63/033/005/0505/0511

AUTHOR: Tsukkerman, I. I. 63

TITLE: Anamorphic electron optics 21

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 33, no. 5, 1963, 505-511

TOPIC TAGS: electrostatic lenses, magnetic lenses, electron beam systems

ABSTRACT: The properties of anamorphic electron-optical systems producing stigmatic images withdifferent magnifications in two mutually perpendicular directions are considered in the paraxial approximation. The treatment is based on the theory for such systems given by Sturrock, A. (Phil. Trans. Roy. Soc. London, A245, 155, 1952). Equations for the electron trajectories are derived and the conditions for anastigmatism given. Equations for the elongation of the electron images are adduced. The cases of purely magnetic and purely electrostatic lenses and the case of mixed lenses are discussed. It is shown that for an electron-optical system to be anamorphic it is sufficient that the conditions for orthogonality and punctual imaging be fulfilled. Electron-

Card 1/2

L 10170-63
ACCESSION NR: AP3000001

optical anamorphic lenses have the advantage over similar glass lenses that the index of refraction can be varied and controlled. Through the use of anamorphic lenses the resolution of electron beam systems can be enhanced in one direction (as compared to the resolution of an axially symmetric system) at the expense of the resolution in the perpendicular direction. Orig. art. has: 42 equations.

ASSOCIATION: none

SUBMITTED: 09Apr62 DATE ACQ: 12Jun63 ENCL: 00

SUB CODE: PH,SD NR REF SOV: 005 OTHER: 002

Card 2/2

L 45165-66 EWT(d)/FSS-2/EWT(1)

ACC NR: AP6028629 SOURCE CODE: UR/0057/66/036/008/1514/1515

62
61
B

AUTHOR: Lentsman,V.L.; Matveyeva,A.G.; Tsukkerman,I.I.

ORG: none

TITLE: Spatial filtering of electron images during accumulation on the screen

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 8, 1966, 1514-1515

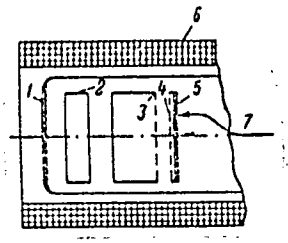
TOPIC TAGS: electron optics, image converter, image contrast, electrooptic image intensifier

ABSTRACT: The authors have experimentally verified the possibility of increasing the contrast of an electron image by a technique proposed elsewhere by one of them (I.I.Tsukkerman. Geometricheskiye preobrazovaniya i prostranstbennaya fil'tratsiya elektronnykh izobrazheniy. Avtoreferat dissertatsii. LFTI AN SSSR, L., 1964). The technique consists in suppressing the long wavelength spatial Fourier components of the image by first accumulating on the screen a negative image that is out of focus, and subsequently accumulating a well focused positive image. The experiments were performed with the superopticon television tube shown in section in the figure. Electrons from the photocathode 1 were accelerated by electrodes 2 and 3 and were focused by the magnetic field of the winding 6 onto the screen 5. With the aid of grid 4 near the screen and a grid on electrode 3 (both grids are shown in the figure by dashed lines) it was possible to vary the energy of the electrons incident on the

537.533.3

Card 1/2

L 45165-66
ACC NR: AP6028629



screen, and also to defocus the image without rotating it. The positive image was accumulated with an incident electron energy such that the secondary emission coefficient of the screen was greater than unity, and the negative image was accumulated with a lower incident electron energy. The considerable increase in contrast achieved in these experiments is illustrated by photographs of a kinescope screen showing the positive image alone, the defocused negative image, and the combined sharpened image. A valuable feature of this technique is that the contrast improvement takes place before the screen is interrogated by the electron beam and is therefore unaffected by fluctuations in the video signal circuits. Orig. art. has: 1 formula, and 3 figures. [15]

SUB CODE: 20,09 SUBM DATE: 12Feb66 ORIG. REF: 001/ ATD PRESS: 5081

Card 2/2

L 56560-65

ACCESSION NR: AP5015533 UR/0286/65/000/008/0068/0068

AUTHORS: Seredinskiy, A. V.; Tsukkerman, I. I. 18 B

TITLE: Method for representing transform contours in natural coordinates. Class 42, No. 170214

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 8, 1965, 68

TOPIC TAGS: coding, computer technique, encoding theory

ABSTRACT: This Author Certificate presents a method for representing transform contours in natural coordinates by using a matrix containing electrically coupled elements with two stable states. To simplify the coding of the contour form, successive pulses (obtained with the triggering of the next element by the preceding one) are supplied to one of the coding units. Each unit corresponds to one of the possible discrete directions between the coupled elements. [illegible] the code description of a curve independent of its position, the magnitude of the first digit of the sequence is subtracted from each digit of the obtained [illegible] sequence of pulses. The sum is produced modulo the number of selected discrete directions. [illegible] disconnected from the junction elements [illegible]

Card 1/2

L 56560-65

ACCESSION NR: AP5015533

device. After the plotting of the unbranched portion of the curve is completed, plotting of the branched portion is produced, beginning with the element whose coordinate is contained in the memory device. To represent closed curves, the coupling between any two neighboring activated elements is disconnected and plotting is begun from one of them.

ASSOCIATION: none

SUBMITTED: 10Jun63 ENCL: 00 SUB CODE: DP, MA

NO REF SOV: 000 OTHER: 000

Card 2/2

TONKONOGIY, I.M.; TSUKKERMAN, I.I.

Information theory approach to the study of perception disturbances. Vop. psikhol. 11 no.1:83-92 Ja-F '65. (MIRA 18:4)

1. Laboratoriya meditsinskoy psikhologii, nevrologicheskoye otdeleniye Psikhonevrologicheskogo instituta imeni Bekhtereva, Leningrad.

LEBEDEV, Dmitriy Savel'yevich; TSUKKERMAN, Il'ya Ioannovich; GARMASH, V.A., retsenzent; FROLOCHKIN, V.G., nauchn. red. RASKINA, T.D., red.

[Television and information theory] Televidenie i teoriia informatsii. Moskva, Energiia, 1965. 218 p. (MIRA 18:4)

TONKONOGIY, I.M.; TSUKKERMAN, I.I.

Use of images distorted by fluctuations in the study of disorders of visual gnosia. Zhur. nevr. i psikh. 63 no.2:236-239 '63. (MIRA 16:11)

1. Laboratoriya meditsinskoy psikhologii (zav. - prof. V.N. Myasishchew) i 6-ye nevrologicheskoye otdeleniye (zav. - doktor med. nauk G.Z.Levin) Leningradskogo nauchno-issledovatel'skogo psikhonevrologicheskogo instituta imeni V.M.Bekhtereva.

*

TREKHDENOV, V.I.; SHIMKO, Yu.K.; TSUKKERMAN, L.P., retsenzent;
NOVIKAS, M.N., inzh., red.; BOBROVA, Ye.N., tekhn.red.

[Platform passenger train indicator] Ukazatel' otpravleniia passazhirskikh poezdov. Moskva, Transzheldorizdat, 1963. 66 p. (MIRA 17:2)

TSUKERMAN, L.P.

NELEPETS, V.S.; TSUKKERMAN, L.P.; METTAS, N.A., redaktor.

[Maintenance of railroad radio installations] Obsluzhivanie zheleznodorozhnykh radioustroistv. Pod red. N.A.Mettas., Moskva, Transzheldorizdat, 1953. 108 p. (MLRA 7:11D)

NELEPETS, V.S.; TSUKKERMAN, L.P.; METTAS, N.A., inzhener, redaktor; MADOV, I.Ya., inzhener, redaktor; VERINA, G.P., tekhnicheskiy redaktor.

[The servicing of railroad radio installations] Obsluzhivanie zheleznodorozhnykh radioustroistv. Pod red. N.A.Mettas. Moskva, Gos. transp. zheldor. izd-vo, 1953. 107 p. (MLRA 8:1)
(Radio--Installation in trains)

PA 69T34

TSUKKERMAN, M. L.

USSR/Electricity Apr 1948
Bridges, Electrical Measurement

"Bridge Systems and Matrix Conversions," Prof M. L. Tsukkerman, Leningrad Inst Power Mechanics and Optics, 4½ pp

"Elektrichest" No 4

Very short analysis of bridge systems, limited to examination of simple circuits not connected with inductive or power links.

69T34

TSUKKERMAN, M. L., Prof.

USSR/Weapons
Artillery
Remote Control

Jul/Aug 49

"Letter to the Editor," Prof S. A. Press, Dr Tech Sci, Chair of Leningrad Ord of Red Banner Mil Mech Inst, Prof D. V. Vasil'yev, Dr. Tech Sci, Chair of Leningrad Electrotech Inst imeni V. I. Ul'yanov, Docent B. I. Rubin, Cand Tech Sci, Chair of LKVVIA, and Prof M. L. Tsukkerman, Chair of Leningrad Inst of Precise Mech and Opt, 2 pp

"Avtomat i Telemekh" Vol X, No 4

Critical letter denounces M. A. Ayzerman and Ya. Z. Tsypkin's review ("Avtomatika i Telemekhanika," No 4, 1948) of V. A. Besekerskiy's book "Remote Control of Artillery Units."

PA 51/49T106

L 04441-67 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l)
ACC NR: AP6022063 (A) SOURCE CODE: UR/0146/66/009/003/0114/0119

47
B

AUTHOR: Tsukkerman, S. T.

ORG: Leningrad Institute of Precise Mechanics and Optics (Leningradskiy institut tochnoy mekhaniki i optiki)

TITLE: Automation of machine control by means of an optical beam

SOURCE: IVUZ. Priborostroyeniye, v. 9, no. 3, 1966, 114-119

TOPIC TAGS: industrial automation, automatic control design, photocell, optic equipment component

ABSTRACT: The author briefly reviews possible methods for controlling earth-moving and construction machinery and the disadvantages of these methods. Projectors for providing a light beam as the basis for control in one plane and in two planes (utilizing, respectively, two and three different modulation frequencies) are described. An optical receiving device (mounted on the controlled machine) which detects deviations in position from the projection axis on the basis of signals from a photocell coupled to a selector stage which measures differences in the strength of signals of different frequency is discussed. The system utilizes a single photocell, it is insensitive to glare from the sun and to deflections of the receiver due to pitching and wobbling of the controlled machine. The transition zone between frequencies in the projected beam amounts to 30-80" depending on the quality and diameter of the objective. The

UDC: 681.40

Card 1/2

L 04441-67

ACC NR: AP6022063

projector for control-beam device PUL-2 is shown schematically. This projector modulates two beams at 900 and 1500 cps. The PUL-4 which provides for two-plane control is compared briefly. Tests of the PUL-2 (with 20-w tube) show it capable of control at distances greater than 500 m yielding deviations in ground profile of less than 3 cm or 12" under various weather conditions. A model capable of 0.1–1" accuracy at distances up to 100 m has been tested. Orig. art. has: 4 figures.

SUB CODE: 14,13/ SUBM DATE: 17Oct64/ ORIG REF: 006 OTH REF: 001

awm

Card 2/2

BRODSKIY, G.N.; TSUKKERMAN, V.I.

Zones of the primary use of railroad and truck transportation in handling small quantities of petroleum. Transp. i khran. nefti i nefteprod. no.12:16-18 '64. (MIRA 18:2)

1. Lengiprospetsgaz i Leningradskiy institut vodnogo transporta.

MATVEYEV, G. A.; KUTATELADZE, S. S.; TSUKERMAN, R. V.

Boilers

"History of domestic boiler constructi n." G. A. Matveev. Reviewed by S. S. Kutateladze, R. V. TSukerman. Izv. AN SSSR Otd. tekh. nauk no. 6, 1952.

Monthly List of Russian Accessions, Library of Congress, November 1952. UNCLASSIFIED.

TSUKKERMAN, M. L.

Tsukkerman, M. L. " apparatus and methods for electrical measurement of mechanical forces," In symposium: Nekotoryye voprosy tekhniki priborostroyeniya, Moscow-Leningrad, 1948, p. 71-98

SO: U-3264, 10 April 1953, (Letopis 'Zhurnal 'nykh Statey, No. 3, 1949)

TSUKKERMAN, M. L.

Tsukkerman, M. L. "Tele-transmission of measurement and telemetry," In symposium: Nekotoryye voprosy tekhniki priborostroyeniya, Moscow-Leningrad, 194[illegible], p. 65-70

SO: U-3263, 10 April 1953, (Letopis 'Zhurnal 'nykh Statey, No.3, 1949)

TSUKKERMAN, S.T., prof.

Portable pneumatic oscillograph and small (portable) mechanical cardiograph. Izv.vys.ucheb.zav.; prib. no.3:57-63 '59. (MIRA 13:4)

1. Leningradskiy institut tochnoy mekhaniki i optiki. Rekomendovana kafedroy "Spetsial'nyye opticheskiye pribory".
(Oscillograph) (Cardiography)

TSUKKERMAN, Solomon Tobiasovich, professor; TOLCHINSKIY, Ye.M., redaktor; SHTEYNBOK, G.Yu., inzhener, vedushchiy redaktor.

[Instrument for measuring low pressure] Pribor dlia izmereniia malykh davlenii. Tema 4, no.P-56-423. Moskva, Akad.nauk SSSR, 1956. 11 p. (MLRA 10:5)

(Manometers)

9.6190
9.6180

27011

S/123/61/000/016/008/022
A004/A101

AUTHOR: Tsukkerman, S.T.

TITLE: On pneumatic oscillographs and their possibilities

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 16, 1961, 12, abstract 16D89 ("Sb. nauchn. tr. Leningr. in-t tochnoy mekhan. i optiki", 1960, no. 41, 3 - 25)

TEXT: The author investigates the prospects of using pneumatic oscillographs for the measurement of mechanical magnitudes. The measuring circuit of the pneumatic oscillograph consists of a diaphragm-pickup, perceiving the pressure, a connecting tube and a mirror-micro-pressure gage. The sensitivity threshold of the pneumatic oscillograph amounts to 0.03 erg., which makes it possible to measure directly, without amplification, very small stresses, speeds, displacements, etc. The dynamic properties of pneumatic oscillographs are determined by the frequency characteristics of the circuit elements, whose natural frequencies amount to 650-2,000 cps for different pickups, 120 cps for the micro-pressure gages and 34-170 cps for the connecting tubes. The transmissible frequency band of pneumatic oscillographs can be brought to 40 cps by means of damping compensa-

Card 1/2

On pneumatic oscillographs ...

tion in the connecting tube. The author analyzes the possibility of extending the frequency band of pneumatic oscillographs to 65-70 cps by using hydrogen instead of air and improving the design of the micro-pressure gage. He points out the expediency of using pneumatic oscillographs to check the operation of piston engines, in devices with visual reading off on semi-transparent screens of the magnitude being measured, etc. The technical characteristics of the manufactured devices and of their individual elements are given. There are 14 figures and 7 references.

G. Flidlider

[Abstracter's note: Complete translation]

Card 2/2

TSUKKERMAN, T. T.

621.385.833 1395

On a Magnetic Electron-optical System analogous to a Planoconcave [illegible] I. I. Tsukkerman (Zh. tekh. Fiz., May 1951, Vol. 21, No. 5, pp. 590-600)

TSUKKERMAN, V.I., inzh.

Analysis and ways of reducing the cost of transporting petroleum in non-self-propelled tankers of the Volgotanker Company. Trudy LIVT no.74:20-32 '64. (MIRA 18:11)

PUSHKARU-SOROCHANU, E.[Puscaru-Soroceanu, E.]; TSUKRA, I.[Tucra, I.]

Steppe association and formation of Dobruja. Rev biol 6 no.3:349-367 '61.

TSUKREYEV, F. Ye.

CARD 1 / 2 PA - 1408

SUBJECT USSR / PHYSICS
AUTHOR ESTULIN, I.V., POPOV, V.S., CUKREEV, F.E.
TITLE The Correlation of the Polarizations and Emission Direction of the γ-Quanta of Co^{60} and Na^{24}.
PERIODICAL Zurn. eksp. i teor. fis, 30, fasc. 6, 1052-1057 (1956)
Issued: 8 / 1956 reviewed: 10 / 1956

At first several previous works bearing on this problem are discussed. The experimental order contains detectors which are sensitive to the degree of polarization of γ-quanta (polarimeter) and also detectors that are not sensitive in this respect. The detectors which are unsensitive to polarization consist of two luminescence counters with stilb crystals. The polarimeter consisted of three luminescence counters: one middle counter (with stilb crystal) as scatterer, and two lateral counters (with tolan crystals), by which radiation is registered. The effect produced by the polarimeter is based upon the dependence of the differential cross section on COMPTON'S scattering of the angle δ between the polarization vector of the γ-quantum and the scattering plane. Photoelectronic multipliers were used in the luminescence counters, and their signals were led to a coincidence scheme.

The polarization sensitivity R of the polarimeter is defined by the ratio of the effective cross sections of the COMPTON scattering of a linearly polarized γ-quantum in the case of scattering in the planes $\delta = 0$ and $\delta = \pi/2$. However, R also depends on the form of the measuring device and is therefore determined experimentally.

Žurn.eksp.i teor.fis, 30. fasc. 6, 1052-1057 (1956) CARD 2 / 2 PA - 1408

Measuring with Co^{60} and Na^{24}: From measuring the angular correlation of the γ -quanta radiated at the transitions investigated here it is possible to draw conclusions as to the following order of the total moments of the amount of motion of the ground level and of the two excited levels: 0;2;4. On this occasion both γ -quanta are quadrupolelike. Consideration of the various combinations of the symmetry properties of the excited levels leads to 4 possible varieties of transitions: E2E2, E2M2, M2E2, M2M2. In the present work the data concerning the symmetry properties of the excited states of the levels of Mg^{24} were determined by measuring the correlation of the polarizations and emission directions of γ -quanta. For this purpose the ratio of threefold coincidences was determined for two different positions of the polarization crystals (namely in the emission plane of the γ-quanta and vertical hereto, i.e. at $\delta=0$ and at $\delta=\pi/2$). For the ratio of the numbers of the threefold coincidences an explicit expression is written down and is specialized in a simplifying manner for the here investigated case of quadrupole transitions. In the case of quadrupole transitions the maximum degree of polarization is to be found with angles of emission of 90°. The transitions on Co^{60} and Na^{24} are of the type E2E2. In the case of Ni^{60} and Mg^{24} the following order of symmetry and total moments of the amount of motion of the ground state and the first excited levels: 0^+, 2^+, 4^+ are attained. In the case of Co^{60} these results agree with those previously obtained.

INSTitution: Moscow State University.

BONDARENKO, B.V.; TSUKROV, F.G.

Thermionic properties of a tungsten-hafnium system. Radiotekh. i elektron. 10 no.5:971-972 My '65. (MIRA 18:5)

ACCESSION NR. AP5 JC/AT 621.385.7:546.78 032

AUTHOR

SOURCE: Radiotekhnika i elektronika

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757210010-7"

TSUKROVA, F. M.
Min Health RSFSR. Ivanovo State Medical Inst

TSUKROVA, F. M.- "The effect of strong (pain) stimuli on bile secretion." Min Health RSFSR. Ivanovo State Medical Inst. Astrakhan', 1956.

(Dissertation for the Degree of Candidate in Medical Sciences)

SO: Knizhnaya Letopis', No. 20, 1956

TSUKROVA, F.M.

Insulin effect in irradiated animals. Med.rad. 4 no.10:80-81 O '59.
(MIRA 13:2)

1. Iz kafedry biokhimii (zav. - prof. S.V. Zakharov) Astrakhanskogo meditsinskogo instituta imeni A.V. Lunacharskogo.
(INSULIN pharmacol.)
(RADIATION EFFECTS exper.)

TATARINOV, Yu.S.; TSUKROVA, F.M.

Fractionated properties of serum proteins under acute ionizing radiation with conditions of stimulation and inhibition of the central nervous system. Med. rad. 5 no.9:86-87 S '60. (MIRA 13:12)

(NERVOUS SYSTEM) (BLOOD PROTEINS)
(RADIATION SICKNESS)

TSUKSHVERDT, A. E.

Tsukshverdt, A. E. "Conversion similarity and test of its use in ship building estimates," Trudy Vses. nauch. inzh.-tekhn. o-va sudostroyeniya, Vol. V, Issue 4, 1948, pp. 145-173

SO: U-3264, 10 April 53 (Letopis 'Zhurnal 'nykh Statey, No. 4, 1949).

TSUKSHVERDT, A E.

TSUKSHVERDT, A E

Kurs Korabel'noy Arkhitektury (Course in Marine Architecture) Moskva, Voyenmorizdat, 1951.
399 p. Illus., Diagrs., Plans, Tables.

AB 520433.

DOLGOV, B.N.; KHARITONOV, N.R.; TSUKERVERDT, T.V.

Catalytic dehydrogenating condensation of trialkylsilane with glycols. Zhur.ob.khim. 28 no.10:2714-2718 O '58. (MIRA 11:12)

1. Institut khimii silikatov AN SSSR.
(Silane) (Glycols) (Dehydrogenation)

AUTHORS: Dolgov, B. N., Kharitonov, N. P. SOV/79-28-10-18/60
Tsukshverdt, T. V.

TITLE: Catalytic Dehydro Condensation of Trialkyl Silanes With Glycols (Kataliticheskaya degidrokondensatsiya trialkilsilanov s glikolyami)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 10, pp 2714-2718 (USSR)

ABSTRACT: The present paper describes the catalytic dehydro condensation of trialkyl silanes with glycols. In this reaction the authors proceeded from the $(C_2H_5)_3SiH$, $(C_3H_7)_3SiH$, $(C_4H_9)_3SiH$ and $C_2H_5(C_4H_9)_2SiH$. Ethylene glycol; 1,2-propanediol; 1,3-, 1,4- and 2,3-butanediol and ethylene diglycol were used as bivalent alcohols. The trialkyl silanes react neither with glycols nor with monovalent alcohols without catalysts. In their presence (traces of alkali glycolates) the reaction takes place according to the following general scheme:

$$2R_3SiH+C_nH_{2n}(OH)_2 \xrightarrow{C_nH_{2n}(OM)_2} C_nH_{2n}(OSiR_3)_2+2H_2 ,$$

where M = Li,Na,K.

The criterion for the ending of the reaction was the separation of the theoretically calculated amount of hydrogen. The reason for this method being preferred to the synthesis by way of the alkyl chloro-silanes (Refs 2-6) was the simplicity of its performance, the higher yields and the purity of the final products. The reaction took place under normal conditions. The reaction velocities depend on the structure of the components. They decrease with the lengthening of the alkyl radicals in R_3SiH (Table 1). The structure of glycol exerts a considerable influence on the reaction velocity (Tables 1 and 2). The nature of the alkali metal in the catalyst also exerts a considerable influence on the reaction. The reaction velocity increases (Table 2) with an increase of the atomic numbers of the alkali metal (from lithium to potassium). In table 3 the 16 newly-synthesized di-(trialkyl siloxy) alkanes are mentioned. There are 5 tables and 8 references, 2 of which are Soviet.

ASSOCIATION: Institut khimii silikatov Akademii nauk SSSR (Institute of the Chemistry of Silicates of the Academy of Sciences, USSR)

Catalytic Dehydro Condensation of Trialkyl Silanes With Glycols

SOV/79-28-10-18/60

SUBMITTED: July 25, 1957

Card 3/3

ANDRONOV, N.I.; ARONOVICH, M.S.; TSUKUBLIN, A.S.

Numerical designations of nonferrous metals. Standartizatsiia 24 no.10:18-24 O '60. (MIRA 13:10)
(Nonferrous metals)

S/028/60/000/010/004/020
B013/B063

AUTHORS: Andronov, N. I., Aronovich, M. S., Tsukublin, A. S.

TITLE: Numerical System for Ferrous Metals

PERIODICAL: Standartizatsiya, 1960, No. 10, pp. 18 - 24

TEXT: This is a report on a new system developed at the VNIINMASh for the designation of ferrous metals by figures. The designation is composed of four figures. The general classification is based on the composition of chemical elements and on general characteristics of classification. In the first case, some important properties of ferrous metals are considered, while the characteristics of the second case are closely related to their practical application. Ferrous metals are designated according to the following scheme: a) The first figure refers to the groups of ferrous metals and their alloys (Table 1). The second figure refers to the pertinent subgroup established according to the principal alloying elements (Table 2). The principal alloying element is that which predominates in the alloy. With equal content of several alloying elements the principal element is that which either influences the properties of the

Card 1/2

alloy or is deficient. In some cases, the principal element is that which determines the properties of the alloy even though its content in the melt is lower than that of other elements. The third and fourth figure together illustrate the specific features of metals and alloys, and an additional alloying. In the group of light alloys, casting alloys are indicated by even numbers and workable alloys by odd numbers. Each of the subgroups indicated by the second figure (Table 2) contains 100 ordinal numbers (00 - 99). These are divided into various groups covering all alloys characterized by the second alloying element and by the elements of additional alloying. The size of these groups depends on the number of types. Finally, a brief explanation of the new system is given: aluminum and its alloys (Tables 1,2,3,4); copper and its alloys (Tables 1,2,5,6); difficultly meltable metals and their alloys (nickel) (Tables 1,2,7); easily meltable metals and their alloys (lead) (Tables 1,2,8,9); noble metals (Tables 1,2); platinum (Table 10). There are 10 tables.

S/028/60/000/03/008/029
D041/D006

25(6)
28(1)

AUTHORS: Aronovich, M.S., and Tsukublin, A.S.

TITLE: New Numerical Designation for Iron and Steel Grades

PERIODICAL: Standartizatsiya, 1960, Nr 3, pp 22-31 (USSR)

ABSTRACT: To replace the existing cumbersome designations, the Vsesoyuznyy nauchno-issledovatel'skiy institut normalizatsii v mashinostroyenii - VNIINMASh (All-Union Scientific Research Institute of Standardization in Machine Building) has developed a new designation system, in which the different metal grades are expressed by figures, based on the same principles as those used in the US, Sweden, West Germany, etc. A similar system has been introduced recently in Czechoslovakia and has been approved by all metallurgical and machine building enterprises. It is mentioned that, from 1945 to 1948, G.V. and K.I. Akimov recommended a four-sign numerical

Card 1/2

S/028/60/000/03/003/029
D041/D006

New Numerical Designation for Iron and Steel Grades

system for designating the grades of metal materials in the Soviet machine building industry. This suggestion, however, did not receive any support. The principles of the system are explained in detail and illustrated by tables. There are 4 tables, and 1 chart.

Card 2/2

ARONOVICH, M.S.; TSUKUBLIN, A.S.

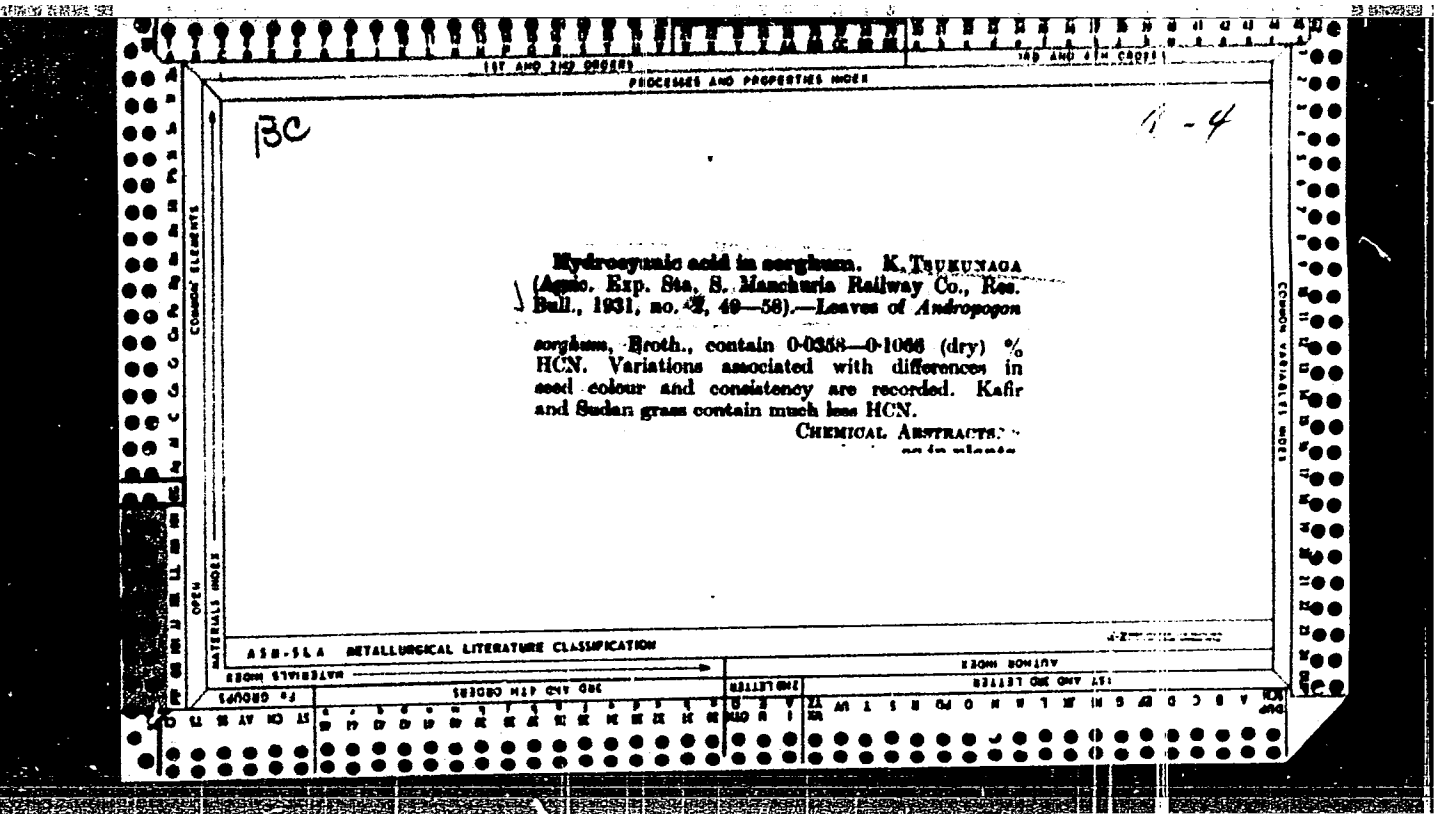
Developing a system of numerical specifications of brands of ferrous metals. Standartizatsiia 24 no.3:22-31 Mr '60. (MIRA 13:6)

(Iron--Classification) (Steel--Classification)

KONYAKHIN, I.R.; MITROFANOV, B.P.; RAKHVALOVA, G.A.; TSUKUBLINA, K.N.

Determination of the hardness and some other mechanical characteristics of materials by compressing conical specimens. Zav.lab. 30 no.4:485-486 '64. (MIRA 17:4)

1. Tomskiy politekhnicheskiy institut.



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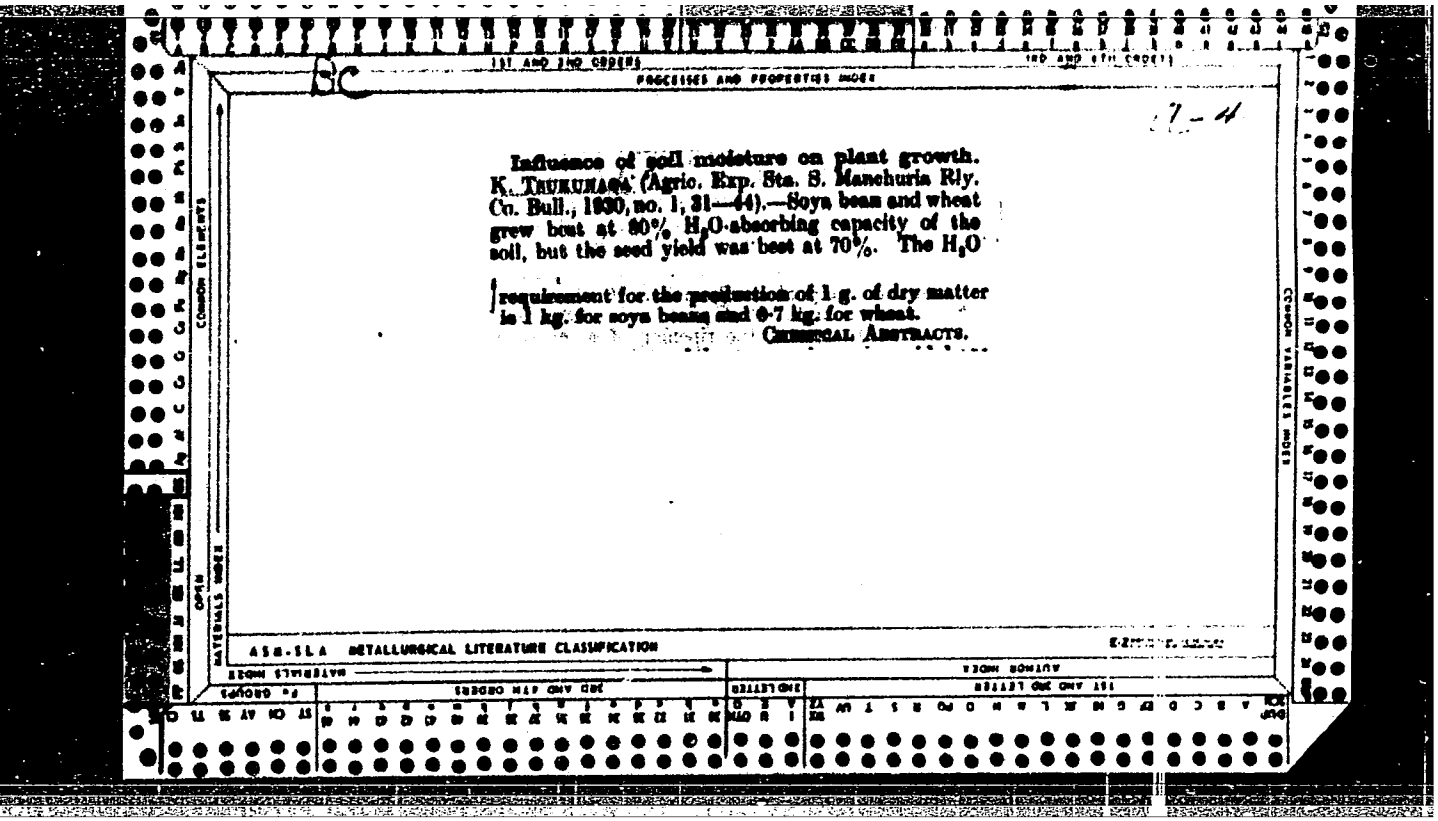
1 - 4

Hydrocyanic acid in sorghum. K. TSUKUNAGA (Agric. Exp. Sta., S. Manchuria Railway Co., Res. Bull., 1931, no. 2, 49—58).—Leaves of *Andropogon sorghum*, Broth., contain 0·0358—0·1066 (dry) % HCN. Variations associated with differences in seed colour and consistency are recorded. Kafir and Sudan grass contain much less HCN.

CHEMICAL ABSTRACTS.



Influence of soil moisture on plant growth. K. TSUKUNAGA (Agric. Exp. Sta. S. Manchuria Rly. Co. Bull., 1930, no. 1, 31—44).—Soya bean and wheat grew best at 80% H_2O-absorbing capacity of the soil, but the seed yield was best at 70%. The H_2O requirement for the production of 1 g. of dry matter is 1 kg. for soya beans and 0·7 kg. for wheat.

CHEMICAL ABSTRACTS.